

ENTRY
APPROVED
J. J. Jula
12-3-04

NON-POSITIVE-DEFINITE OPTICAL FILTERING FROM POSITIVE- DEFINITE TRANSFER FUNCTIONS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a divisional of U.S. application Ser. No. 09/512,781 entitled

"IMAGE PROCESSING UTILIZING NON-POSITIVE-DEFINITE TRANSFER

FUNCTIONS VIA FRACTIONAL FOURIER TRANSFORM" filed February 25, 2000,

now U.S. Patent number 6,650,476

which claims benefit of priority from U.S. provisional applications Ser. Nos. 60/121,680

and 60/121,958, each filed on February 25, 1999.

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BACKGROUND OF THE INVENTION

1. Field of Invention

[0002] This invention relates to optical signal processing, and more particularly to the

use of fractional Fourier transform properties of lenses with traditional non-phase-shifting

optical elements within traditional Fourier optical signal processing environments to

realize, or closely approximate, arbitrary non-positive-definite transfer functions. The

system and method herein can be applied to conventional lens-based optical image

processing systems as well as to systems with other types of elements obeying Fractional

Fourier optical models and as well to widely ranging environments such as integrated